# OmniConverter®

POWER OVER ETHERNET

## *OmniConverter*® FPoE/SE and FPoE+/SE

**10/100BASE-T to 100BASE-X Media Converter with Power over Ethernet (PoE or PoE+)**

The OmniConverter FPoE/SE and FPoE+/SE are cost-effective, multi-port media converters that convert 10/100BASE-T copper to 100BASE-X fiber and support Power-over-Ethernet (PoE and PoE+). Classified as Power Sourcing Equipment (PSE), they can provide power to one or two Powered Devices (PDs) using standard UTP cables that carry the Ethernet data. The OmniConverter functions as a PoE mini-switch, and supports single or dual RJ-45 ports.

OmniConverter PoE media converters provide network distance extension with fiber optic cabling, and function as PoE injectors that enable powering devices such as IP-phones, surveillance cameras and wireless access points with Power over Ethernet (PoE).

OmniConverter media converters are available in two power levels. FPoE/SE models support PoE (IEEE 802.3af) and provide 15.40W of power per RJ-45 port. FPoE+/SE models support PoE+ (IEEE 802.3at) and provide 30W per port for more demanding PDs such as video conferencing equipment, PTZ (pan-tilt-zoom) cameras and multi-stream 802.11n wireless access points. The OmniConverter FPoE/SE and FPoE+/SE support frame sizes up to 10,240 bytes.

The OmniConverter PoE media converters are available with fixed fiber ST and SC connectors or Small Form Pluggable (SFP) transceiver receptacles. Fiber ports support multimode or single-mode and dual fiber or single-fiber. SFP models support 100Mbps standard, CWDM and DWDM transceivers in a variety of distances and fiber types.

The compact standalone OmniConverter media converters can be tabletop mounted, wall mounted, or DIN-rail mounted using an optional DIN-rail mounting kit. They can also be mounted on a 1U 19” rack-mount shelf. They are available with DC terminal power or external 100 to 240V AC universal power adapter.

SFPs not included

## KEY FEATURES

- Multi-port media converter and PoE Power Sourcing Equipment
- 10/100BASE-T[1] copper to 100BASE-X fiber media converter
- Supports 100BASE-X fixed-fiber and 100BASE-X standard, CWDM and DWDM SFP transceivers
- Supports frame sizes up to 10,240 bytes
- The FPoE/SE supports IEEE 802.3af PoE on one or two RJ-45 copper ports
- The FPoE+/SE supports IEEE 802.3at PoE+ on one or two RJ-45 copper ports
- Multiple port configurations:
  - 2 Port Device: 1 Fiber + 1 RJ-45
  - 3 Port Device: 1 Fiber + 2 RJ-45
- Plug and Play
- Available in AC and DC models
- Integrated wall mount brackets
- Commercial (0 to 50ºC) and wide (-40 to 60ºC) operating temperature ranges
- Made in the USA
- Lifetime Warranty and free 24/7 Technical Support

[1]RJ-45 port also supports 1000BASE-T data rate

Omnitron Systems

# APPLICATIONS

This example shows a combined security and fiber-to-desk application.

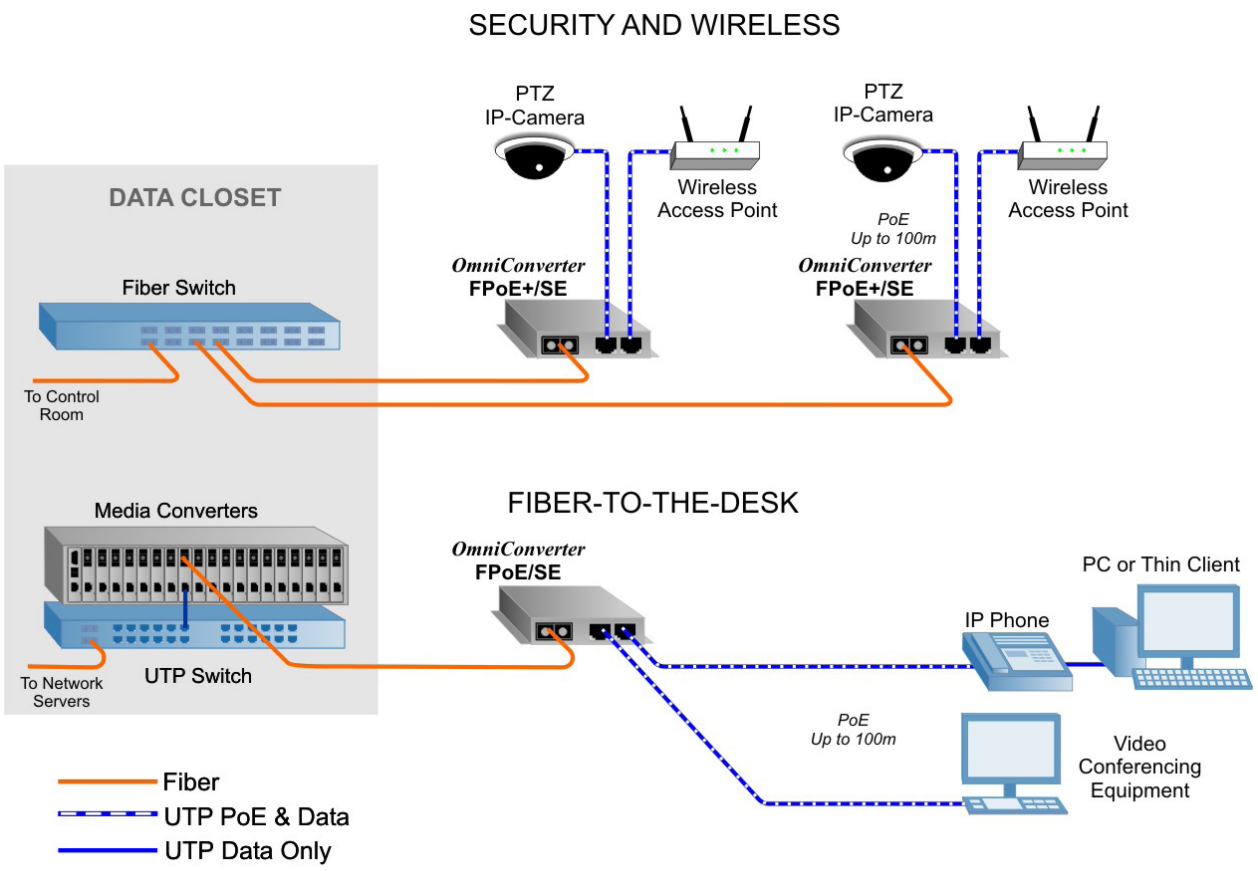
PoE+ IP surveillance cameras and Wireless Access Points are installed throughout a large facility. A network switch with fiber ports can be used to distribute fiber links from a control room to OmniConverter media converters.

OmniConverter FPoE+/SE media converters provide up to 30 watts of Power over Ethernet (PoE+) over UTP cables to an IP camera and Wireless Access Point at each location, each of which can be located up to 100m from the media converter.

A fiber-to-the-desk network is deployed to leverage the security and distance benefits of fiber.

In the main data closet, iConverter, miConverter or FlexPoint media converters can be installed in high-density rack-mount chassis to provide reliable and cost-effective fiber distribution from existing copper network equipment.

Fiber optic cables run to each office, where they are terminated by OmniConverter media converters. The OmniConverter media converters convert fiber to copper and, provide data and power to desktop devices such as IP phones and video conferencing equipment. They automatically disable PoE power to non-PoE desktop devices such as PCs and laptops.




### Power / Voltage Requirements and Specifications per IEEE

| Description | IEEE 802.3af PoE | IEEE 802.3at PoE+ |
|---|---|---|
| Power Supply Voltage Range | 46.0 to 57.0 VDC | 51.0 to 57.0 VDC |
| Voltage Range at PSE port Output | 44.0 to 56.0 VDC | 50.0 to 56.0 VDC |
| Maximum Power from PoE/PSE port | 15.4 watts | 30 watts |
| Minimum Voltage at PoE/PD port input* | 37.0 VDC | 42.5 VDC |
| Minimum Power at PoE/PD port* | 12.95 watts | 25.5 watts |
| * at 100 meters using Cat5 | | |

# SPECIFICATIONS

| | | | | |
|---|---|---|---|---|
| **Description** | **OmniConverter FPoE/SE**<br>10/100BASE-T to 100BASE-X<br>Fiber Media Converter with PoE | | **OmniConverter FPoE+/SE**<br>10/100BASE-T to 100BASE-X<br>Fiber Media Converter with PoE+ | |
| **Standard Compliances** | IEEE 802.3,<br>IEEE 802.3af (15.40 watts max) | | IEEE 802.3,<br>IEEE 802.3af (15.40 watts max),<br>IEEE 802.3at (30 watts max) | |
| **PoE Supported Modes** | IEEE Alternate B (Alt B) | | | |
| **Regulatory Compliances (*Pending)** | Safety: UL 62368-1*, UL 60950-1, IEC 62368-1*, IEC 60950-1, EN 62368-1*, EN 60950-1, CAN/CSA C22.2 No. 62368-1-14*, CAN/CSA C22.2 No. 60950-1, CE Mark<br>EMI: FCC Class A, CE Class A<br>EMS: CE<br>IP Rating: IP20 Protection | | | |
| **Environmental** | RoHS, WEEE, REACH | | | |
| **Frame Size** | Up to 10,240 bytes | | | |
| **Port Types** | Copper: 10/100BASE-T (RJ-45)<br>Fiber: 100BASE-X (ST, SC, SFP)<br>100BASE-BX (SC, SFP) | | | |
| **Cable Types** | Copper: EIA/TIA 568A/B, Cat 5 UTP and higher<br>Fiber: Multimode: 50/125, 62.5/125µm<br>Single-mode: 9/125µm | | | |
| **AC Power Requirements (Models with AC/DC Adapters)** | 1 RJ-45 Port<br>100 - 240VAC/47 to 63Hz<br>0.20A @ 120VAC (typical) | | 1 RJ-45 Port<br>100 - 240VAC/47 to 63Hz<br>0.36A @ 120VAC (typical) | |
| | 2 RJ-45 Ports<br>100 - 240VAC/50 - 60Hz<br>0.37A @ 120VAC (typical) | | 2 RJ-45 Ports<br>100 - 240VAC/50 - 60Hz<br>0.69A @ 120VAC (typical) | |
| **DC Power Requirements (Models with DC Terminals)** | 1 RJ-45 Port<br>+/-46 to +/-57VDC;<br>0.32A @ 48VDC<br>2 Pin Terminal (non-isolated) | 1 RJ-45 Port<br>+/-46 to +/-57VDC;<br>0.32A @ 48VDC<br>3 Pin Terminal (isolated) | 1 RJ-45 Port<br>+/-48 to +/-57VDC;<br>0.59A @ 48VDC<br>2 Pin Terminal (non-isolated) | 1 RJ-45 Port<br>+/-48 to +/-57VDC;<br>0.59A @ 48VDC<br>3 Pin Terminal (isolated) |
| | 2 RJ-45 Ports<br>+/-46 to +/-57VDC;<br>0.60A @ 48VDC<br>2 Pin Terminal (non-isolated) | 2 RJ-45 Ports<br>+/-46 to +/-57VDC;<br>0.60A @ 48VDC<br>3 Pin Terminal (isolated) | 2 RJ-45 Ports<br>+/-48 to +/-57VDC;<br>1.12A @ 48VDC<br>2 Pin Terminal (non-isolated) | 2 RJ-45 Ports<br>+/-48 to +/-57VDC;<br>1.12A @ 48VDC<br>3 Pin Terminal (isolated) |
| | A minimum DC input voltage of 50VDC is required to guarantee 25.5 watts (for 802.3at) at the end of 100 meters on Cat 5 cable or better. | | | |
| **Dimensions (W x D x H)** | 3.8" x 4.8" x 1.0" (96.5 mm x 121.9 mm x 25.4 mm) | | | |
| **Weight** | Module Only: 1.1 lbs. (498.9 grams)<br>Module w/ Adapter: 1.6 lbs. (725.7 grams) | | Module Only: 1.1 lbs. (498.9 grams)<br>Module w/ Adapter: 2.3 lbs. (1043.3 grams) | |
| **Operating Temperature** | Commercial: 0 to 50°C<br>Wide: -40 to 60°C (-20°C AC cold start)<br>Storage: -40 to 80°C | | | |
| **Humidity** | 5 to 95% (non-condensing) | | | |
| **Altitude** | -100m to 4,000m | | | |
| **MTBF (hours)** | Module Only: 1,238,000<br>AC/DC Adapter: 100,000 | | Module Only: 776,000<br>AC/DC Adapter: 100,000 | |
| **Warranty** | Lifetime warranty with 24/7/365 free Technical Support | | | |

# ORDERING INFORMATION

| OmniConverter FPoE/SE IEEE 802.3af 15W Models | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Fiber Type | Distance | Connector Type | | | Tx / Rx Lambda (nm) | Min. Tx Power (dBm) | Max. Tx Power (dBm) | Min. Rx Power (dBm) | Max. Rx Power (dBm) | Min Attenuation (dB) | Link Budget (dB) |
| | | ST | SC | SFP | | | | | | | |
| MM/DF | 5km | 9360-0-ypt | 9362-0-ypt | - | 1310 / 1310 | -24 | -14 | -31 | -14 | - | 7 |
| SM/DF | 30km | 9361-1-ypt | 9363-1-ypt | - | 1310 / 1310 | -15 | -8 | -31 | -8 | - | 16 |
| SM/DF | 60km | 9361-2-ypt | 9363-2-ypt | - | 1310 / 1310 | -5 | 0 | -31 | -3 | 3 | 26 |
| SM/DF | 120km | - | 9363-3-ypt | - | 1550 / 1550 | -5 | 0 | -31 | -3 | 3 | 26 |
| MM/SF[1] | 5km | - | 9370-0-ypt | - | 1310 / 1550 | -8 | 0 | -28 | 0 | - | 20 |
| MM/SF[1] | 5km | - | 9371-0-ypt | - | 1550 / 1310 | -8 | 0 | -28 | 0 | - | 20 |
| SM/SF[1] | 20km | - | 9370-1-ypt | - | 1310 / 1550 | -15 | -5 | -30 | -3 | - | 15 |
| SM/SF[1] | 20km | - | 9371-1-ypt | - | 1550 / 1310 | -15 | -5 | -30 | -3 | - | 15 |
| SM/SF[1] | 40km | - | 9370-2-ypt | - | 1310 / 1550 | -8 | 0 | -30 | -3 | 3 | 22 |
| SM/SF[1] | 40km | - | 9371-2-ypt | - | 1550 / 1310 | -8 | 0 | -30 | -3 | 3 | 22 |
| SFP | - | - | - | 9379-0-ypt | - | - | - | - | - | - | - |

[1] When using single-fiber (SF) models, the Tx wavelength on one end has to match the Rx wavelength on the other.
MM = Multimode, SM = Single-mode, DF = Dual Fiber, SF = Single-fiber.

**Base Model Number: 93xx-x-ypt**

Select the model from ordering table above.

Add # of RJ-45 ports (**y**), power option (**p**) and operating temperature range (**t**) to the model type selected.

**Number of RJ-45 Ports (y):**

| | |
|---|---|
| **1** = One RJ-45 Ports | **2** = Two RJ-45 Ports |

**Power Options (p):**

| | |
|---|---|
| **1** = External AC/DC Adapter, 100 - 240 VAC included, with US Power Cord | **9** = Direct DC 2 pin terminal connector, no AC/DC power adapter |
| **2** = External AC/DC Adapter, 100 - 240 VAC included, No Power Cord | **F** = Direct DC 3 pin terminal connector, no AC/DC power adapter |
| **8** = External AC/DC Adapter, 100 - 240 VAC included, with Japanese Power Cord | |

**Operating Temperature Options (t):**

| | |
|---|---|
| **<leave blank>** = Commercial temperature (0 to 50°C) | **W** = Wide temperature (-40 to 60°C) |

Contact Omnitron for other fiber options. Order the appropriate SFPs separately. Visit the Omnitron Optical Transceivers web page.

| Accessories | |
|---|---|
| **Model Number** | **Description** |
| 8250-0 | DIN Rail Mounting Kit |
| 8251-0 | DIN Rail Mounting Clip |
| 8260-0 | 1U Rack Mount Shelf |

# ORDERING INFORMATION

| OmniConverter FPoE+/SE IEEE 802.3at 30W Models | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Fiber Type | Distance | Connector Type | | | Tx / Rx Lambda (nm) | Min. Tx Power (dBm) | Max. Tx Power (dBm) | Min. Rx Power (dBm) | Max. Rx Power (dBm) | Min Attenuation (dB) | Link Budget (dB) |
| | | ST | SC | SFP | | | | | | | |
| MM/DF | 5km | 9380-0-ypt | 9382-0-ypt | - | 1310 / 1310 | -24 | -14 | -31 | -14 | - | 7 |
| SM/DF | 30km | 9381-1-ypt | 9383-1-ypt | - | 1310 / 1310 | -15 | -8 | -31 | -8 | - | 16 |
| SM/DF | 60km | 9381-2-ypt | 9383-2-ypt | - | 1310 / 1310 | -5 | 0 | -31 | -3 | 3 | 26 |
| SM/DF | 120km | - | 9383-3-ypt | - | 1550 / 1550 | -5 | 0 | -31 | -3 | 3 | 26 |
| MM/SF[1] | 5km | - | 9390-0-ypt | - | 1310 / 1550 | -8 | 0 | -28 | 0 | - | 20 |
| MM/SF[1] | 5km | - | 9391-0-ypt | - | 1550 / 1310 | -8 | 0 | -28 | 0 | - | 20 |
| SM/SF[1] | 20km | - | 9390-1-ypt | - | 1310 / 1550 | -15 | -5 | -30 | -3 | - | 15 |
| SM/SF[1] | 20km | - | 9391-1-ypt | - | 1550 / 1310 | -15 | -5 | -30 | -3 | - | 15 |
| SM/SF[1] | 40km | - | 9390-2-ypt | - | 1310 / 1550 | -8 | 0 | -30 | -3 | 3 | 22 |
| SM/SF[1] | 40km | - | 9391-2-ypt | - | 1550 / 1310 | -8 | 0 | -30 | -3 | 3 | 22 |
| SFP | - | - | - | 9399-0-ypt | - | - | - | - | - | - | - |

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| **Model Number** | **Description** |
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| 8251-0 | DIN Rail Mounting Clip |
| 8260-0 | 1U Rack Mount Shelf |



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